ENERGY POLICY UPDATE

May 13, 2014

The Energy Policy Update Electronic Newsletter is published by the Arizona Governor's Office Of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by Community Outreach Personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

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Leveraging Ratepayer Programs to Cut Industrial Energy Use
Thursday, May 15, 11:00 a.m. – 12:30 p.m. MST
This webinar is being hosted by the Clean Energy Solutions Center in partnership with the Institute for Industrial Productivity & the SEE Action Network. Advanced registration is required. Space is limited. Click here to register.

The 2014 Farm Bill's Renewable Energy for America Program
Wednesday, May 21, 3:00 p.m. - 4:00 p.m. Eastern Daylight Time.
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ARIZONA-RELATED

Arizona Expands Probe of Distributed Generation
[Energy Prospects West, May 13] The Arizona Corporation Commission has kicked off a new investigation into the value and cost of distributed generation -- focused primarily on net-metered photovoltaic systems. The probe comes amid cooling demand for residential solar in Arizona and allegations by one prominent solar leasing company that the state's largest utility, Arizona Public Service (APS), is "lobbying to raise taxes on Arizona solar customers." As part of their decision last November ordering APS to implement a monthly surcharge on solar-powered residential customers beginning this year, state energy regulators also ordered stakeholder workshops "to inform future policy on the value that distributed generation brings to the grid," explained ACC utilities analyst Rick Lloyd at the first workshop, held May 7 in Phoenix. Lloyd said the workshops are intended to explore "the currently non-monetized benefits" of distributed generation "with the goal of developing a methodology for assigning DG values because the net-metering cost shift issue will be faced by all Arizona utilities as the penetration level of DG increases." In its Nov. 14 decision, the commission approved a 70-cent-per-kW "cost shift" charge for APS' solar-powered residential customers after finding that they contribute less to the investor-owned utility's recovery of lost fixed-cost revenues than non-solar powered customers -- even though distributed generators create more lost fixed costs. The charge works out to about $4.90 per month for a residential customer with a 7-kW system -- less than a tenth of the level proposed by APS.

First Solar Doubles First-Quarter Profit
[Phoenix Business Journal, May 7] First Solar Inc. reported strong first-quarter sales increases of $182 million from the previous quarter, with earnings driven by revenue from the company's Campo Verde project in California. Tempe-based First Solar (Nasdaq:FSLR), a global provider of photovoltaic solar systems, reported net income of $112 million, or $1.10 per share, on revenue of $950.2 million for the quarter ended March 31. That compares with net income of $59.1 million, or 66 cents per share, on revenue of $755.2 million, for the same quarter in 2013. The increase in net income was primarily due to higher net sales, project cost improvements and lower restructuring and asset impairment charges, according to the company.

Interior Secretary Announces Solar Project During Phoenix Visit
[Arizona Republic, May 7] Renewable energy projects create vast economic opportunities for

Native American tribes, Interior Secretary Sally Jewell said during a Wednesday stop in Phoenix. Speaking at the Heard Museum in Phoenix, Jewell announced $738,000 in grants to nine tribes — two in Arizona — to help them develop energy industries. "Our president has made very clear he is interested in energy development across the board," Jewell said. "A good part of that is renewable energy." The San Carlos Apache Tribe was awarded a $149,117 grant to establish an energy authority, including an operations plan, regulations and ordinances for renewable energy initiatives. It also will train staff on solar maintenance. The Hualapai Indian Tribe was awarded a $100,303 grant for a training program for the tribe's mini-grid and diesel generating plant at Grand Canyon West. It also will create an electrical technician apprenticeship program for designing, constructing and maintaining the tribe's proposed and existing solar arrays; train tribal officials in managing and negotiating electrical right-of-way and solar projects; and review internal energy development capacity. "These grants will help pave the path for energy development on Indian lands," Jewell said. Other grantees are in California, Washington, Alaska, New York and New Mexico. Jewell also announced the second large-scale solar project to be built on Indian trust lands.

JinkoSolar To Supply 35 Megawatts for Project in Arizona

[Bloomberg, May 9] JinkoSolar Holding Co. (JKS), the best-performing Chinese solar manufacturer in the past year, agreed to supply panels for a 35-megawatt power project in southern Arizona. Construction on the Avalon Solar project in Pima County is expected to begin this quarter and will be complete by year-end, Shangrao, China-based JinkoSolar said today in a statement. Power will be sold to Tucson Electric Power Co. under a 20-year contract. Avalon will be built on a 500-acre (202-hectare) site selected to comply with an U.S. Environmental Protection Agency program promoting clean-energy projects on abandoned land. The project is JinkoSolar's second with the Eagle, Idaho-based developer Clenera, after completing the 23-megawatt Westlands Solar Farms project in February. Swinerton Inc. built that solar farm, in Fresno County, California, and is also the contractor on the Avalon plant.

Phoenix and Buckeye Agree to Solar Power and Parks

[Arizona Republic, May 6] An unusual three-way deal to build a solar power plant in the far southwest Valley is being described as a win-win-win, infusing a suburb with money for parks or other projects while helping its larger neighbor and a utility company meet renewable-energy goals. Buckeye, Phoenix and Arizona Public Service Co. reached the agreement to build the plant on a Phoenix landfill in southern Buckeye. In return, Buckeye will receive $3 million. Buckeye Mayor Jackie Meck said that although the agreement brings his city cash for local projects, it is also an example of "regionalism" — thinking of the bigger picture. "It's a tremendous partnership," he said. "Cities like us that are growing, and even cities that are grown — it's hard to do things because of the cost anymore." APS hopes to break ground on the plant in the fourth quarter of this year and complete the project by mid-2015. Meck approached Phoenix Mayor Greg Stanton with the idea of amending a 2002 contract between the two cities for the landfill site, according to Stanton aide Jack Lunsford. In 2002, Phoenix agreed to develop parks, a water-retention area and open space on 160 acres of the 2,650-acre landfill, located along State Route 85 south of the Arizona State Prison Complex-Lewis. The new amendment allows Phoenix to lease the land set aside for parks and open space to APS for the solar project. APS will build and run the solar facility on 116 acres.

Walmart To Double Down on Solar Use

[Associated Press, May 9] Walmart stores already are the biggest commercial solar user in the country, and the company said Friday in a joint announcement with President Obama that it will double that effort by adding more solar to a variety of retail outlets. The company has 36 solar installations in Arizona, and will continue to add to that collection as part of the renewed effort to double its solar use by 2020, and a separate goal to reduce the energy use at its facilities by the same year. Obama and Walmart officials made the announcement at a Mountain View, Calif. store that showcases some of the company's energy efforts, including solar, efficient lighting and other equipment to make the store less wasteful. Obama used the occasion to announce several energy initiatives he is undertaking to address climate change in the absence of participation from Congress, which is sharply divided by energy issues.

ALTERNATIVE ENERGY & EFFICIENCY

China To Lead Regional Market On Grid Modernization, Energy Efficiency

[Electric Light & Power, May 7] As electricity demand continues to increase, nearly all major Asia-Pacific countries are pursuing the deployment of smart grid technology to increase the efficiency of their power distribution systems, and China is leading the region in terms of its smart grid development projects, says a new report from research and consulting firm GlobalData. Following

the global recession of 2007 and 2008, the Asia-Pacific region is now leading the recovery, boasting a faster growth level than most developed economies. To maintain these rates, various Asian countries will need to enhance their transmission and distribution (T&D) infrastructure. GlobalData believes that China's use of ultra-high voltage transmission, along with its increasing UHV technology adoption and growing focus on renewable energy sources, is playing a key role in developing robust T&D infrastructure in the country.

Diverse Organizations Urge EPA To Consider Energy Efficiency for Emission Reduction

[Fierce Energy, May 9] Three diverse organizations have come together to reach a consensus on a proposal to address power plant emission reduction requirements under Section 111(d) of the Clean Air Act, which is under review by the White House Office of Management and Budget. The set of energy efficiency principles agreed upon by the National Association of Regulatory Utility Commissioners (NARUC), the National Association of State Energy Officers, and the National Association of Clean Air Agencies are being presented to the U.S. Environmental Protection Agency (EPA) as one of many potential compliance mechanisms to reduce carbon emissions from existing power plants. The groups realizes that there are many options states can incorporate in compliance plans under the proposed guidelines, but these principles present a flexible framework for the EPA to rely on in considering energy efficiency as one of the options. The document is -- by design -- general, and encourages EPA to recognize the diverse programs states have already undertaken to reduce emissions and promote cleaner, more efficient use of electricity.

Germany Taps Universities in Its Push for Green Energy

[New York Times, May 11] BERLIN — Germany has set an ambitious goal: to run its economy almost entirely on renewable energy by 2050. The energy push, known as the Energiewende, or energy transformation, is often compared in scope to the country's postwar reconstruction. It will require wide-ranging changes in German society — not just in energy supply but in architecture and agriculture, urban planning, and economic markets. Treading onto this unknown territory, Germany has called on its universities to help make the transformation work. While Germany is supporting university research into solar power and other clean energy, perhaps the biggest innovation in higher education is how the Energiewende has triggered the creation of new interdisciplinary approaches, pushing institutions to develop new courses, degrees and departments. Green technology is not necessarily where the breakthroughs need to happen, said Karl-Friedrich Ziegahn, head of the renewable energy department at the Karlsruhe Institute of Technology's School of Energy. In terms of the transformation, Germany's biggest challenges today, he said, "are socioeconomic in nature: public awareness, cost and community involvement." This is the thinking, for example, behind the University of Freiburg's master's in renewable energy management, one of several hundred sustainability-related degree programs offered in Germany. Almost all of them have been added over the past six years. The degree, which is offered through the university's Center for Renewable Energy, is designed to close the gap between the technical aspects of renewable energy and a broader vision of the future of sustainable development.

IKEA Solar Project Achieves Grid Parity

[Energy Manager Today, May 6] Martifer Solar says it has delivered one of the first unsubsidized solar plants in Italy installed on the rooftop of a new IKEA store in Pisa, Tuscany. The project has a total capacity of 696.15 kW and has been structured without a feed-in-tariff (FIT) approach. The power generated from the PV project will be at a levelized cost of electricity, which is equal to or less than the price of electricity being sold from the grid, meaning that even without subsidies, the solar industry is approaching grid parity in Italy.

Obama Pledges $2B in Energy Efficiency Funding, Lauds Wal-Mart Solar Roofs

Obama commits to energy efficiency & solar training during a Mountain View, CA, Wal-Mart stop, while four miles away, Areva gears up a high tech solar system with federal funding.

[Renewable Energy World, May 9] Mountain View, CA – President Barack Obama took the Blue-Light stage here at Wal-Mart in Mountain View, California, to announce several plans for improving energy efficiency and announce commitments by several big retailers to support solar PV. He led with his plan to invest another "$2 billion in energy upgrades for federal buildings over the next three years." He also touted his three-year-old Better Buildings Initiative, noting that "190 businesses and organizations have signed on, committed to improving energy efficiency in America's commercial buildings by 20 percent by the year 2020." And he vowed "to support training programs at community colleges across the country that will help 50,000 workers earn the skills that solar companies are looking for right now." He reckoned that, "Every four minutes, another American home or business goes solar, and every panel is pounded into place by a worker whose job cannot be overseas." Well, perhaps not pounded, exactly. Obama was in California for a series of meetings this week, including a Democratic National Convention dinner in nearby San Jose last night. The choice of a Wal-Mart for the 14-minute energy speech was no

accident. “I know this looks like a typical Wal-Mart, but it is different — and that’s why I’m here,” he said. “Wal-Mart has already got the most installed on-site solar capacity of any company in America. And now you’ve announced plans to double that capacity. And it’s all part of your goal to buy or produce 7 billion kilowatt hours of renewable energy by 2020 — something that could save Wal-Mart $1 billion a year in energy costs,” Obama said.

ENERGY/GENERAL

EIA's Annual Energy Outlook Predicts More US Natural Gas-Fired Power Capacity

[Power Engineering, May 7] The U.S. Energy Information Administration has released the full content of the Annual Energy Outlook 2014, which predicts an increasing use of natural gas for U.S. power generation capacity. According to the EIA’s reference case, natural gas will surpass coal as the nation’s largest source of energy for electricity generation by 2035. Additional retirement of existing coal-fired and nuclear generating capacity could result in natural gas-fired generation more quickly, according to the agency. The EIA also predicts a growth in the power generation capacity provided by renewable energy sources. The agency stated the a growth in electricity generation from renewable sources tends to be largely policy-driven in the first decade of the agency’s projection, but as natural gas prices rise and the capital costs of renewable technologies decrease over time, renewable power generation becomes more competitive and accounts for 16 percent of the nation’s total power generation in 2040 in its reference case.

Mexico’s Newly Opened Energy Market Attracts Renewables

[Renewable Energy World, May 8] MEXICO CITY – It is a good time to be in the renewable energy business in Mexico since landmark energy reform opened up the electricity market and prioritized renewables. The government has an ambitious 12-year goal for renewable energy production, and private equity funds and development banks have millions of dollars ready to allocate to clean energy. “There is a huge potential for exploiting renewable energy in Mexico,” says Guillermo Gutierrez of BK Partners, an investment management firm. “We believe this is an exciting moment.” Mexico has set the goal to generate 35 percent of its energy from renewable sources by 2024, including large hydroelectric generators. In 2012, only 4 percent of electricity was generated from wind, solar and geothermal sources. The government expects enormous increases in solar and wind power capacity for 2018 — solar will increase from 54.6 MW in 2012 to 627.5 MW in 2018, while wind will reach 8,922 MW from its current 1,332 MW in the same period. Gutierrez manages the Balam Fund, a private equity fund dedicated to investing in renewable energy projects in Mexico. The fund currently has $160 million, and a $400 million target. So far, it has identified 30 possible projects within the areas of wind, solar, hydropower and cogeneration.

New York Prodding Utilities To Shift from Monopoly Model

[Bloomberg, May 12] New York State is pushing its utility industry to shift away from a century-old business model into a system that can accommodate more power from solar and wind. With the fourth-highest electricity prices in the U.S. and a grid increasingly susceptible to storm-related failures, the current system isn’t working, said Richard Kauffman, the former chairman of Levi Strauss & Co. who is now the state’s first energy czar. Regulators and power-industry executives are meeting today in Albany to discuss his proposal for a new model, “Utility 2.0.” The program recasts the industry as something akin to traffic cops, coordinating the flow of electricity instead of functioning as a monopoly distributor of power coming from a few large plants. The move would spur generation from thousands of smaller systems owned by individuals and other companies -- notably rooftop solar panels. “The way we structured utilities 100 years ago, with cost recovery plus a return on their capital, doesn’t work today, “Kauffman said in an interview in New York. This is no small shift. The power grid was built for a world when producing and providing electricity was complicated and expensive, something best left to the utilities. That world is no more, Kauffman said.

PACE on the Rebound: Renewable Funding Closing $300M Credit Facility

Big money for long-awaited market in property-tax-backed home solar and efficiency

[GreenTechMedia.com, May 9] After years of wandering the property-assessed clean energy (PACE) desert, it looks like startup Renewable Funding is finally approaching the promised land. In March, it got its residential market back in California. In April. it raised a $20 million VC round, its second in five years, with investors including Prelude Ventures, Angeleno Group, Apollo Investment Corp, Claremont Creek Ventures and NGEN Partners. Now the firm has secured a $300 million credit facility to fund residential PACE program across the state, CEO Cisco DeVries said in an interview last week. While he wouldn’t name the financial partners involved, he did say more details on the plan would be announced soon. That’s probably the biggest residential PACE financial package in the country, considering that the entire market consists of no more than $400 million in projects to date in California, Colorado and a handful of other states, he said. Renovate

America, another PACE provider in California, reported about $200 million in projects financed to date in April. But DeVries said that the amount is justified, given recent developments that could finally put residential PACE financing back on the map. With California now reopened for business, “we’re about to launch a very large program, and we anticipate very high volumes,” he said.

INDUSTRIES AND TECHNOLOGIES

Ambri Funding Influx Suggests a New Day for Grid Batteries

Ambri raises money to build a commercial-scale factory for batteries that promise low-cost, multi-hour energy storage for the grid.

[MIT Tech Review, May 5] Progress being made by battery startup Ambri suggests that the market for long-duration grid energy storage is finally taking shape. Storing wind and solar power using today’s battery technologies is too expensive, but new technologies could make it affordable, enabling wider use of renewables. The Cambridge, Massachusetts, company this week said it has raised a $35 million series-C round to fund the production of prototype batteries from an existing factory and finance construction of a commercial-scale plant. The company intends to test prototypes in the field this year and produce full-size batteries for paying customers by 2016. For Ambri, the investment marks a shift from demonstrating the science behind its technology—a battery cell that uses two liquid metals as electrodes and a salt electrolyte—to engineering a commercially viable product (see “Ambri’s Better Battery”). It also reflects a growing confidence that utilities and renewable energy project developers are willing to invest in new energy storage technologies.

Marine Hydrokinetics Taking Center Stage

[HydroWorld.com, May 13] As power generators across the world look toward renewable energies, the marine and hydrokinetic sector is quickly becoming an area of emphasis within the hydropower industry. Significant research and development efforts are already being conducted in many parts of the world, and the global potential for wave energy and tidal power is vast. Making marine and hydrokinetics a commercially viable option remains a challenge, but MHK development is becoming a top priority for many countries. "There are clearly lots and lots of good ideas out there to harness hydrokinetic energy, but we also know cost reduction remains a major challenge," U.S. Department of Energy Secretary Ernest Moniz said recently. "That's exactly the kind of innovation we'd like to move forward in." We remain really strong in overcoming the scientific and technological challenge." Addressing these challenges will be a key topic at HydroVision International 2014, which, for the second consecutive year, will include a conference track devoted entirely to the MHK sector. Titled, "Wave, Tidal and In-Stream Power", the track includes six sessions covering development challenges, environmental issues, the importance of collaborating with conventional hydro, research and development, and more. The track also includes a meet-and-greet that will allow suppliers to interact with potential buyers.

Solar Success: Students Develop Award-winning Solar Tracker Technology Solution

[Renewable Energy World, May 13] Engineering ingenuity and entrepreneurial smarts proved a winning combination for a team of UNH seniors whose project took a top prize at a recent national environmental design competition. The team — three business entrepreneurship majors from the Paul College of Business and Economics and two mechanical engineering majors from the College of Engineering and Physical Sciences, led by Paul College professor Jeff Sohl — won the INTEL Innovation award for the top project in the 24th annual Environmental Design Contest at New Mexico State University earlier this month. “We were the only team there with business as well as engineering majors,” said Cole Jaillet, an entrepreneurship and marketing major, explaining their winning edge. “The engineers created this cool product, but it was up to us business majors to make it feasible.” Calling themselves Granite State Ventures, the UNH team was one of 19 competing. The contest, hosted by the Waste Management Education and Research Consortium (WERC), challenges undergraduates from around the U.S. to develop technological solutions to one of five real-world environmental challenges. The UNH team chose to tackle an economic obstacle to solar panels: The energy “cost” of the system that moves them to track the sun during the day. Called power point tracking systems, these systems draw energy generated by the solar panels to power the motor, making them inefficient. Further, solar panels lose energy during the day due to overheating. The engineers on the team, Jeffrey Moore and Andrew Nelligan, addressed both inefficiencies by utilizing thermoelectric generators to harness that excess heat for the energy that swivels the panels to follow the sun at an optimal angle as it passes through the sky. “We created a system that’s really going to take care of a real problem,” said entrepreneurship and marketing major Daniel Crowley. Their system, which they call TiltOne, harnesses 22 percent more energy than traditional systems, they said. While the engineers solved

the technical problem and created a prototype of their design, the entrepreneurs — Jaillet, Crowley, and marketing and entrepreneurship major Bridget Fay — applied their business acumen to make TiltOne a success in the marketplace.

LEGISLATION AND REGULATION

Amid Pipeline and Climate Debate, Energy-Efficiency Bill Is Derailed

[New York Times, May 12] WASHINGTON — A bipartisan bill to encourage energy efficiency in buildings died in the Senate on Monday, derailed by the contentious debate over the Keystone XL pipeline and President Obama's plans to issue new climate change regulations. The bill's end came as the Senate voted 55 to 36 on a procedural motion, falling five votes short of the 60 required to bring the bill to a final vote.

Energy Efficiency Standards Announced

[Energy Manager Today, May 12] Two new energy efficiency standards for electric motors and walk-in coolers and freezers that could save businesses up to $26 billion on their utility bills through 2030 were released by the energy Department. Electric motors used extensively in a variety of applications, such as industrial machines, conveyor belts and escalators will become more efficient. Last year, approximately 5 million electric motors were shipped in the United States, according to the Department. A standard 30 horsepower electric motor consumes approximately 62,000 kilowatt-hours per year. The new standard will save consumers up to nearly $16 billion and prevent 96 million metric tons of CO2 through 2030. In addition, the Energy Department issued today a final efficiency standard for walk-in coolers and freezers, such as the milk display at the supermarket. This standard will help cut energy bills by about $10 billion and result in CO2 emissions reductions of 62 million metric tons through 2030.

EPA Takes First Step Toward Regulating Fracking Chemicals

[Bloomberg, May 9] The Obama administration began a process that may result in the first federal regulation of chemicals used in fracking, a drilling technique that has transformed energy production while eluding oversight sought by environmentalists. After three years of delay, the U.S. Environmental Protection Agency said today it's considering rules requiring companies to send it details about the fluids used for fracking. The agency said it may decide to stop short of rules, and use incentives or voluntary steps to compel disclosure.

Kansas 3.5GW Wind Transmission Line Clears Hurdle

The Grain Belt Clean Line transmission line has been granted approval to sell its services to wind farm operators in Kansas at negotiated rates.

[Windpower Monthly, May 12] The key regulatory hurdle was cleared when the Federal Energy Regulatory Commission granted approval for the sale of capacity on the 1,200-mile (1,900-kilometre) overhead direct-current transmission line. When operational, the project is intended to deliver up to 3.5GW of wind-generated energy from western Kansas to energy consumers in Missouri, Indiana and Illinois. Clean Line is a utility based in Kansas and Indiana. It received an order from the Kansas Corporation Commission in November 2013, granting it a permit to construct a 595-mile Kansas section of the line. The transmission line has now been granted authorisation to negotiate bilateral agreements with generators for all of the line's capacity. "Generator interconnection to the Grain Belt Express will be subject to the requirements of the project's open access transmission tariff," the company said in a statement.

Utilities Could Charge for Distributed Generation Under Oklahoma Law

[Cogeneration & On-Site Power Production, May 9] The US state of Oklahoma has passed a new law which opens the door for utilities to impose extra charges on owners of rooftop solar systems or small wind turbines, according to reports. The law allows utilities to establish a separate customer class and monthly surcharge for distributed power generation. However, it does not mandate the charges, and an accompanying Executive Order from Governor Mary Fallin said that, 'prior to implementation of any fixed charges', the law 'allows the [state regulator] to consider the use of all available alternatives, including other rate reforms such as increased use of time-of-use rates, minimum bills and demand charges.' The Executive Order also said the regulator must undertake a 'transparent evaluation of distributed generation' that 'mandates inclusion of all stakeholders, including representatives of the solar and distributed wind industries, and utilities.' MSNBC news commentator Rachel Maddow said the law 'essentially fines people for the crime of using solar power', but the pro-solar Alliance for Solar Choice applauded the governor for 'demonstrating a commitment to distributed generation and energy choice for Oklahomans'.

White House Climate Change Report Unveils Dire Warning, Calls for Action

WASHINGTON — The Obama administration Tuesday released an updated report on how climate

change requires urgent action to counter impacts that touch every corner of the country, from oyster growers in Washington State to maple syrup producers in Vermont. "Climate change, once considered an issue for a distant future, has moved firmly into the present," the report said. Some environmental and public health groups hailed the National Climate Assessment as a possible "game changer" for efforts to address climate change, in part because it makes the impact less abstract to many Americans. "It will help put their own experiences in context, and we think that is important in generating interest and action on the issue," said Lyndsay Moseley, director of the American Lung Association's Healthy Air campaign. The extensive report detailed how consequences of climate change are hitting on several fronts, including health, infrastructure, water supply, agriculture and especially in more frequent severe weather such as floods and droughts. The impacts are also broken down by region--from storm surges in the Northeast to wildfires and water shortages in the southwestern United States. An earlier draft, released in January 2013, was reviewed by the National Academies of Sciences and attracted more than 4,000 public comments.

WESTERN POWER

Areva Solar and Energy Storage Plant Begins Operations

[Power Engineering, May 5] Areva began operations of its molten salt energy storage demonstration plant. The plant is being carried out at Sandia National Laboratories' National Solar Thermal Test Facility in New Mexico. Test results show the use of molten salt as a working fluid enables high temperature operations, reduces the volume of salt needed for storage, and removes the need for two sets of heat exchangers in the system. The process combines the molten salt test loop with Areva's compact linear Fresnel reflector (CLFR) technology, which uses an array of mirrors to concentrate the sun's energy on an elevated evacuated tube receiver to heat a working fluid, in this case molten salt.

Blythe CNG Fueling Station Opens

The local CNG station links Los Angeles and Phoenix for the CNG commuter

[Palo Verde Valleh & Quartzsite Times, May 2] BLYTHE, Calif. - Palo Verde Valley Transit (PVVTA), City of Blythe and Riverside County officials celebrated the opening of the compressed natural gas (CNG) station on West 14the Ave, just west of South Broadway on April 17. The project has been 11 years in the making starting with a feasibility study in 2003 and grant money from Mojave Desert Air Quality Management District (MDAQMD) in 2004. But once focus began on the location of the station, keeping it away from residential areas and pinpointing feasible sites to build the large-scale station on, funding partners withdrew because of the uncertainty of the technology. At this point, the future of the station was dependent on finding other money sources to add to the MDAQMD previously awarded to PVVTA.

California Heat Pushes Power to Six-Year Seasonal High

California is grappling with a record drought that's reducing hydroelectric supplies at a time when inventories of natural gas, a fuel used to produce power, are hovering near a decade low. Spot electricity in California, the second-leading power-consuming state, jumped to the highest seasonal level in six years as surging temperatures boost air-conditioning demand. The National Weather Service issued a heat advisory yesterday for parts of the San Francisco and Monterey Bay areas through tomorrow. Temperatures in the interior valleys of the state should rise to 100 degrees Fahrenheit (38 Celsius) with San Francisco reaching the mid-90s tomorrow, the weather service said in forecasts yesterday. The May 13 record high for San Francisco is 87, weather service data show. California is grappling with a record drought that's reducing hydroelectric supplies at a time when inventories of natural gas, a fuel used to produce power, are hovering near a decade low. While resources are adequate, the grid operator said last week, the state faces reliability challenges and higher prices, especially after the shutdown of the Edison International (EIX)'s San Onofre nuclear plant.

First Dallas Wind Farm Is on College Rooftop

[SustainableBusiness.com, May 5] Several years ago, we heard a lot about the advent of small wind turbines that could be attached to the tops of buildings, but news of that faded - there seemed to be many problems, such as noise and reverberations. But now we've heard that El Centro College in downtown Dallas installed 80 small turbines on top of an 9-story building - coincidentally, among the first to get electricity 100 years ago. At 20 kilowatts, the $240,000 system will provide about 10% of the building's power - enough for all 2000 computers. At about human height, they can rotate 360 degrees to catch the wind that funnels through from nearby skyscrapers. This "artificial wind tunnel" produces winds with average speeds of 20-22 mph, compared to 8 mph generally in Dallas County. All the turbines are made in the US.

How Berkshire Is Winning the West

[Energy Prospects West, May 13] By announcing its acquisition of Calgary-based AltaLink, Alberta's largest transmission provider, Warren Buffett's Berkshire Hathaway, continues its emergence as one of the biggest -- and most profitable -- players in western North American energy markets. Following the Berkshire chief executive's recent promise of another "major acquisition," Berkshire Hathaway Energy on May 1 disclosed a "definitive agreement" with SNC-Lavalin Group to purchase its regulated transmission business for approximately $2.9 billion. Berkshire's diversified energy subsidiary -- formerly known as MidAmerican Energy Holdings -- expects to complete the transaction by the end of this year, pending review by regulators.
The move adds another significant asset to Berkshire Hathaway's growing $70-billion energy portfolio -- which is one of the largest in North America with power generation, retail electricity supply, transmission and natural gas pipeline subsidiaries spanning the Western and Midwestern U.S., and now into Canada. AltaLink, which generated net income of about $45 million on around half a billion dollars in revenues in 2013, will operate its 12,000 kilometers of transmission lines and 280 substations as a wholly owned subsidiary under Berkshire Hathaway Energy.

SMUD Awards Contracts for 400 MW California Pumped-Storage Hydro Project

[Power Engineering, May 8] Sacramento Municipal Utility District (SMUD) awarded the Jacobs Associates team the Owner's Engineer services contract for preliminary design and construction services on its proposed Iowa Hill Pumped-Storage Project located in Northern California. When completed Iowa Hill would be a 400-MW pumped storage hydropower facility. GEI Consultants Inc. was also awarded a contract for certain Owner's Engineer services and will work closely with the Jacobs Associates team for the project. GEI will lead the design of the 6,400 acre-foot upper reservoir. The design of the dam and reservoir will be under the regulatory authority of the Federal Energy Regulatory Commission (FERC) and the California Division of Safety of Dams (DSOD). The project would utilize an existing reservoir on the American River, from which water would be pumped up to the 6,400 acre-foot upper reservoir, where the water would be stored. During peak demand periods, water would flow from the upper reservoir to the lower reservoir. The electricity generated would connect the existing transmission line that connects SMUD's existing Upper American River hydroelectric project with the District's customers.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

INCENTIVES

Arizona has lowered taxes, streamlined regulations, and established a suite of incentives to support corporate growth and expansion. The Arizona Competitiveness Package, groundbreaking legislation adopted in 2011, makes it easier for existing Arizona companies to prosper and establishes Arizona as one of the most desirable places for expanding companies to do business. Give your company a competitive edge by utilizing Arizona's incentives.

- Job Training
- Quality Jobs
- Qualified Facility
- Computer Data Center Program
- Research & Development
- Foreign Trade Zone
- Military Reuse Zone
- Angel Investment
- Renewable Energy Tax Incentive
- Healthy Forest
- Sales Tax Exemption for Machinery and Equipment
- Lease Excise
- Additional Depreciation
- Work Opportunity

- Commercial/Industrial Solar
- SBIR/STTR
- Private Activity Bonds
- QECB's

(ACA) PROGRAMS

DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE)

- Arizona Incentives/Policies
- Federal Incentives/Policies
- Solar Policy News - DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

The following solicitations are now available:
(Click on title to view solicitation)

- Commercial Building Technology Demonstrations Concept Paper Submission Deadline: March 31, 2014. Full Application Submission Deadline: May 19, 2014.
- Bioenergy Technologies Incubator Close Date: May 23, 2014
- Clean Energy Manufacturing Innovation Institute for Composite Materials & Structures Close Date: June 19, 2014
- NEW! Solar Market Pathways Concept Paper Submission Deadline: May 28, 2014 5:00 PM ET. Full Application Submission Deadline: July 3, 2014 5:00 PM ET.
- Sunshot "Race to the Roof" Initiative Registration Due: October 31, 2014
- Energy, Power, and Adaptive Systems Close Date: November 3, 2014
- NSF/DOE Partnership on Advanced Frontiers in Renewable Hydrogen Fuel Production Via Solar Water Splitting Technologies 2014-2016 Close Date: Dec. 11, 2014
- Energy for Sustainability Response Due: February 19, 2015
- Advanced Fossil Energy Projects - Solicitation Number: DE-SOL-0006303 Expiration Date: November 30, 2016
- Energy Department Announces Next Phase of L Prize Competition to Create Innovative Energy-Saving Lighting Products – Notification of Intent to Submit Product minimum of 30 days, but no more than 45 days prior to product submission. Monetary prize goes to the first successful entrant with the earliest timestamp.
- Repowering Assistance Program – Ongoing
- Rural Business Enterprise Grants – Ongoing
- Rural Business Opportunity Grants – Ongoing
- Sustainable Agriculture Research and Education Grants – Ongoing
- Renewable Energy RFP's - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines
- U.S. Dept. of Agriculture - Rural Development Grant Assistance

- Green Refinance Plus - Ongoing

ENERGY-RELATED EVENTS

2014

- Sunshot Grand Challenge Summit 2014
  May 19-22, 2014 Anaheim, CA
- Dept. of Energy's 13th Annual Small Business Forum & Expo
  June 10-12, 2014 Tampa, FL
- Native American Economic Development & Energy Projects Conference
  June 16-17, 2014 Anaheim, CA
- AZBio Expo 2014
  June 19, 2014 Scottsdale, AZ
- 32nd Annual West Coast Energy Management Congress
  June 25-26, 2014 Seattle, WA
- Solar 2014: 43rd Annual Conference
  July 6-10, 2014 San Francisco, CA
- National Geothermal Summit
  August 5-6, 2014 Reno, NV
- 2014 ACEEE Summer Study on Energy Efficiency in Buildings
  August 17-22, 2014 Pacific Grove, CA
- EPI's 4th Annual Energy Policy Research Conference
  September 4-5, 2014 San Francisco, CA
- HTUF 2014 National Meeting - The Forum for Action in High-Efficiency Commercial Vehicles
  September 22-24, 2014 Argonne, National Lab Argonne, IL
- Geothermal Energy Expo
  September 28-October 1, 2014 Portland, OR
- Solar Power International
  Oct. 20-23, 2014 Las Vegas, NV
- GreenBuild International Conference & Expo
  October 22-24, 2014 New Orleans, LA
- Governor's Celebration of Innovation
  November 13, 2014
- ASU Sustainability Series Events
- Green Building Lecture Series
  Granite Reef Senior Center Scottsdale, AZ